

REMARKS

In the Office Action the Examiner noted that claims 11-20 are pending in the application. The Examiner rejected claims 11-15 and 17-19, and objected to claims 16 and 20. By this Amendment, claims 11 and 17 have been amended, claims 18 and 20 have been cancelled without prejudice or disclaimer, and new claim 21 has been added. No new matter has been added. Thus, claims 11-17, 19, and 21 are pending in the application. The Examiner's rejections are traversed below.

Objection to the Specification

In item 1 on page 2 of the Office Action the Examiner objected to the specification, stating that "[o]n page 17, in line 20, 'write' addressing mechanism should be 'read' addressing mechanism," and that correction is required.

The applicant respectfully submits that the language pointed out by the Examiner is correct as presented. The cited paragraph is describing Figure 9, which is indeed illustrating the "write" addressing mechanism of transceiver station 4. However, the paragraph beginning on line 1 of page 17 incorrectly lists Figure 8 as the "write" mechanism, and should read as the "read" mechanism, which is what is depicted in Figure 8. The paragraph beginning on line 1 of page 17 has been amended thusly. Therefore, the Applicant respectfully requests withdrawal of the objection to the specification.

Claim Rejections Under 35 USC §102

In item 3 on pages 2-5 the Examiner rejected claims 11-15 and 17 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,982,185, issued to Holmberg et al. (hereinafter referred to as Holmberg) in view of U.S. Patent No. 4,847,613, issued to Sakurai et al. (hereinafter referred to as Sakurai).

Claim 11 of the present application, as amended, recites:

A method for communication among equal-access stations of a ring-shaped, serial fiber-optic bus, comprising:

during one bus cycle, a predetermined one of the stations generating strictly time-cyclical container messages, addressing the container messages, and supplying the container messages to the bus, the predetermined one of the stations supplying a synchronization message to the bus as an end message of the bus cycle;

each one of the stations writing respective data in the container messages

addressed to the one of the stations;

each one of the stations reading data of written-in container messages on the serial bus as a function of a read authorization of the one of the stations;

each one of the stations communicating only with the bus, due to source addressing of the written respective data and each one of the stations having direct-access read authorization of the respective data written by each one of the stations;

each one of the stations reading the synchronization message and generating a respective interrupt as a function of the synchronization message, wherein depending on a respective position of each one of the stations, the respective interrupt being time delayed so that all of the respective interrupts are output in a time-synchronous manner; and

further processing the read data when the respective interrupts are output.

Therefore, each of the equal-access stations communicate “only with the bus, due to source addressing of the written respective data and each one of the stations having direct-access read authorization of the respective data written by each one of the stations.” In other words, each of the stations is able to write data in the container messages, and each of the stations is also able to read the data that is written in the container messages without the data having to pass through a “master” type of station. This is due to each of the stations having direct-access authorization to read the data written by each of the station, rather than only communicating with a “master” station.

This is in direct contrast to Holmberg, which discloses a conventional master/slave communication system which consists of a master and plural slaves, wherein data can be transmitted from a master to slaves, and from the slaves to the master, but no data be actively transmitted between the slaves (Column 2, Lines 52-58). “[T]he first slave node 12A transmits a data transfer message 70 including one slot 74(A) into which slave node 12A loads data for transmission to the master node 11” (Column 5, lines 33-36). As apparent from the disclosure of Holmberg, the slave nodes are unable to communicate directly with one another, and are only able to read and write information that comes directly from, and goes directly to, the master node. Conversely, in the present application, each of the stations are able to communicate data directly without a “master” station functioning as a intermediary to relay the data.

Also, Holmberg does not disclose “generating strictly time-cyclical container messages,” as are recited in amended claim 11. Furthermore, it is not disclosed in Holmberg that synchronization takes place at the end of each bus cycle, wherein amended claim 11 recites “supplying a synchronization message to the bus as an end message of the bus cycle.”

Therefore, referring to claim 11 as amended, Holmberg does not disclose the features recited in claim 11 wherein each of the equal-access stations communicate “only with the bus, due to source addressing of the written respective data and each one of the stations having

direct-access read authorization of the respective data written by each one of the stations," generating strictly time-cyclical container messages," and "supplying a synchronization message to the bus as an end message of the bus cycle." Further, these deficiencies are not cured by combining Holmberg with Sakurai. Therefore, it is respectfully submitted that claim 11 patentably distinguishes over the cited references.

Claims 12-15 depend from claim 11 and include all of the features of that claim plus additional features which are not taught or suggested by the cited references. Therefore, it is respectfully submitted that claims 12-15 also patentably distinguish over the cited references.

Claim 17 has been amended to contain the limitations of cancelled claims 18 and 20, which, according to the Examiner in item 5 on page 7 of the Office Action, places claim 17 in condition for allowance.

In item 4 on pages 5-6 of the Office Action the Examiner rejected claims 18 and 19 under 35 U.S.C. §103(a) as being unpatentable over Sakurai in view of U.S. Patent No. 5,941,966, issued to Gotze.

By this Amendment, claim 18 has been cancelled without prejudice or disclaimer. Claim 19 depends from amended claim 17, which, as discussed above, is in condition for allowance. Therefore, it is respectfully submitted that claim 19 also patentably distinguishes over the cited references.

In item 5 on page 7 of the Office Action the Examiner objected to claims 16 and 20 as being dependent upon a rejected base claim, but indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 16 depends from claim 11 and includes all of the features of that claim plus additional features which are not taught or suggested by the cited references. As previously discussed, amended claim 11 patentably distinguishes over the cited references. Therefore, it is respectfully submitted that claim 16 also patentably distinguishes over the cited references.

By this Amendment, claim 20 has been cancelled without prejudice or disclaimer.

New Claim 21

New claim 21 is directed to a device for providing communication among equal-access stations of a ring-shaped, serial optic bus with:

"each of the transceiver stations having a direct-access read authorization which allows reading of data written in the transmitted messages by each of the transceiver stations."

Therefore, it is respectfully submitted that claim 21 patentably distinguishes over the cited references.

Summary

In accordance with the foregoing, the specification and claims 11 and 17 have been amended. Claims 18 and 20 have been cancelled. New claim 21 has been added. No new matter has been added. Thus, claims 1-17, 19, and 21 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: 4-8-04